UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: Petition for Rulemaking Submitted by the Land Mobile Communications Council, An Allocation of Spectrum for Private Mobile Radio Services, RM-9267

Dear Ms. Salas:

Enclosed you will find one original and four copies of the letter from William T. Hatch, Acting Associate Administrator, National Telecommunications and Information Administration, to Richard M. Smith, Chief, Office of Engineering and Technology, in the above-referenced proceeding.

Please direct any questions you may have regarding this filing to the undersigned. Thank you for your cooperation.

Respectfully submitted,

Kathy D. Smith
Acting Chief Counsel

Enclosures

No. of Copies rec'd 0+4
List A B C D E OET

UNITED STATES DEPARTMENT OF COMMERCE
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Mr. Richard M. Smith
Chief, Office of Engineering and Technology
Federal Communications Commission
2000 M Street, N.W.
Washington, DC 20554

Re: Petition for Rulemaking Submitted by the Land Mobile Communications Council, An Allocation of Spectrum for the Private Mobile Radio Services, RM-9267

Dear Mr. Smith:

NTIA has reviewed the above-referenced petition for rule making of the Land Mobile Communications Council (LMCC), 1998, and with the advice of the Interdepartment Radio Advisory Committee (IRAC), provides the following comments.

The petition filed by the LMCC offers the Commission an opportunity to consider innovative approaches to spectrum management in the area of private radio services. We agree with LMCC that private radio systems "play a vital role in our nation's business and infrastructure." In this light, we believe that the Commission should consider ways to supplement the spectrum management benefits of competitive bidding with other new approaches appropriate to private radio services. NTIA supports the LMCC's efforts to improve the management of spectrum to support private radio systems within a market-based process, and believes there may be sharing possibilities in frequency bands transferred to the Commission under the Omnibus Budget Reconciliation Act of 1993 (OBRA-93). However, NTIA does not support a further reallocation of Federal Government spectrum to non-Federal uses, and particularly not in the bands identified here, as detailed below.

420-450 MHz The LMCC has requested that the 420-430 MHz and 440-450 MHz portions of the 420-450 MHz band be reallocated to Private Mobile Radio Service (PMRS) use. The 420-450 MHz band is used by the Federal Government not only for the PAVE PAWS system as noted in the petition, but also for high-powered airborne search radars used by the military, the U.S. Coast Guard, and other Federal agencies. These airborne radars have no operational boundaries, and may overfly any part of the United States as operational necessity dictates. Outside of military use, the aircraft are used for maritime search and rescue, and drug interdiction. Operation of these radars are incompatible with mobile use within the aircraft's radio horizon. The Navy also uses shipborne radars in this band, which may be operated along coastal areas of the United States. The military operates electronic warfare (EW) systems in this band for tactical and training operations; and high-power command/destruct, flight termination, and drone control systems are being deployed in this band at selected military facilities.

The LMCC further suggests that the NOAA Wind Profiler Radar (WPR) operations at 448-450 MHz be "discouraged." It should be noted that these WPR's are not experimental at this frequency, but operational. This frequency was selected by NTIA after careful analysis of the interference problems associated with WPR operation in the 404 MHz band, electromagnetic compatibility at 448-450 MHz, and the necessity to operate in the 400 MHz range due to optimal data recovery at selected atmospheric altitudes. NTIA, recognizing the amateur service operations in the band could be affected, consulted extensively with the amateur community and developed coordination procedures before allowing WPR operations on this frequency. Plans for deploying an extensive WPR network on the 449 MHz frequency are proceeding.

Although the amateur service is under the purview of the Commission, the Federal Government supports the amateur service operation in the 440 MHz band and other bands as an important adjunct to the National Communications System and the National Weather Service, and with general recognition of the valuable public service performed by amateur radio operators nation wide. Amateur radio operations share well with the radiolocation service on a secondary basis since radar-produced interference caused to the amateur service generally can be tolerated, and restrictions are in place to preclude interference from amateur radios to Federal operations in the band. Noting the critical Federal operations in the 420-450 MHz band, it is inappropriate to consider any reallocation of this band.

960-1215 MHz The LMCC has proposed the reallocation of 85 MHz from the 960-1215 MHz band. The petition notes that this band is used for air traffic control in the National Air Space, and certain aeronautical radionavigation systems, such as Tactical Air Navigation (TACAN), will be phased out in the future. While the use of land-based TACAN will diminish with time, the Navy will have requirements for TACAN on ships and Naval Air Stations for the foreseeable future. Further, and more importantly, this band is internationally allocated for aeronautical radionavigation. The international footnote 709 (S 5.328) associated with this band provides "[t]he band 960-1215 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to navigation and any directly associated ground-based facilities." There are no provisions in the International Telecommunication Union's frequency allocation table for alternate uses.

While present obsolescent navigation systems are planned to be phased out, the band must remain available to accommodate modern, advanced systems that will be used on a worldwide basis for air navigation. The band will continue to be used for Distance Measuring Equipment (DME) and Traffic Alert and Collision Avoidance Systems. NTIA closely examined the feasibility of reallocating a small portion of this band in response to the Balanced Budget Act of 1997 (BBA-97), and concluded that a reallocation of any size was not in the national interest. See National Telecommunications and Information Administration, U.S. Department of Commerce, NTIA Special Publication 98-36, Spectrum Reallocation Report, at pp. 2-2, 2-3 (Feb. 1998).

The petition further notes that this band is shared with the Department of Defense's Joint Tactical Information Distribution System (JTIDS). The development of JTIDS included an exhaustive engineering program that established the pulse shape and timing of the JTIDS signal to

minimize interference to TACAN. The ability of JTIDS to share with land-based mobile systems is not known and cannot be assumed. Therefore, the 960-1215 MHz band cannot be considered for reallocation.

Other Frequency Bands The LMCC also requested reallocation of the 1390-1400 MHz, 1427-1432 MHz, and 1670-1675 MHz bands to PMRS. These bands are planned to be transferred to the Commission in 1999 under the OBRA-93. Federal systems are expected to continue to operate in the 1390-1400 MHz band for 14 years, and the 1427-1432 MHz band for nine years at selected sites. See National Telecommunications and Information Administration, U.S. Department of Commerce, NTIA Special Publication 95-32, Spectrum Reallocation Final Report, at pp. v, 4-2 - 4-7 (Feb. 1995).

The 1390-1400 MHz and 1427-1432 MHz bands may offer possibilities for sharing between the Federal systems remaining operational, and PMRS systems, that are more advantageous than Federal sharing with commercial services. NTIA's Office of Spectrum Management will be available to work with the Commission in identifying sharing possibilities, if appropriate, between PMRS and Federal operations in the mixed-use bands transferred under OBRA-93 and BBA-97.

I have also enclosed for your information the views on this subject from six individual Federal agencies.

Sincerely,

William T. Hatch

William T. Hatch
Acting Associate Administrator
Office of Spectrum Management

Enclosure

Enclosure

IRAC Member Comments

a) Department of Agriculture
b) Department of Commerce
c) Department of Defense
d) Federal Aviation Administration
e) Department of Justice
f) National Aeronautics and Space Administration/National Science Foundation

From: <Storey_Marvin/wo@fs.fed.us>
To: NTIADC40.NTIAHQ40(edinkle)
Date: 5/22/98 3:00pm
Subject: USDA comments re LMCC Petition

The USDA does not support the recommendation of the LMCC to reallocate 420-430 MHz and 440-450 MHz to the PMRS. Neither the current radiolocation needs of the DoD as Primary user or the needs of the Amateur Radio community as a secondary user could be met if the suggested reallocation is followed.

We agree that the LMCC members require additional radio communications capability, however, there are alternative means to accomplish that end separate from reallocating additional spectrum from Federal use. LMCC's suggestions shift the financial load from PMRS users supporting their communications requirements through commercial services to the Federal agencies.

One alternative that could assist in meeting LMCC's requirements is the dispatch/cellular network offered by Nextel. It is fast proving its capability to accomplish many of the needs mentioned in the petition. I am sure that Nextel and many of the other upcoming suppliers of PCS type communications services are installing systems designed to meet requirements parallel to that needed by LMCC.

Marvin T. Storey
Telecommunications Manager
USDA IRAC Representative
Radio Policy and Planning
Forest Service WO IRM Staff

Voice: 703-235-2943
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IBM address: mstorey/wo
Internet address: mstorey/wo@fs.fed.us

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Washington, D.C. 20233

Office of Radio Frequency Management
Room 2246, SSMC-2
1325 East West Highway
Silver Spring, MD 20910

May 20, 1998

MEMORANDUM FOR: Edwin Dinkle
Secretary, IRAC

FROM: Richard Barth
Department of Commerce Representative

SUBJECT: LMCC Petition: IRAC Doc 30617

Request the FCC be provided with the following NOAA comments regarding this petition, paragraph 71 of which states:

> "NOAA is experimenting with Wind Profiler use at 449 MHz. Ideally, this should be discouraged or at least minimized, in favor of higher frequency operation (e.g. 915 MHz), if reallocation to PMRS is considered."

First, NOAA's initial profiler experimentation was done in other bands. The 449 MHz band will be used for a nationwide operational profiler network as funds become available.

Secondly, it is well known that the frequency ranges commonly used for wind profiling are not interchangeable. The Director General of the WMO, in his letter to the Secretary General of the CCIR, requested the latter to nominate profiling spectrum in three ranges--around 50, 400 and 1000 MHz--because of the widely different performance provided by profilers in those ranges. The use of frequencies near 50 MHz provides data at altitudes up to 20-25 km but the lack of available bandwidth limits the resolution available. Frequencies near 1000 MHz, though they permit better resolution, are limited by atmospheric physics to measurements below about 4-6 km. Frequencies in the 400 MHz range provide reasonable resolution up to 16-20 km. The need for three profiling bands was confirmed by WRC-97, which designated bands in the three spectral regions requested by the WMO.

There are no other radiolocation bands near 400 MHz so the use of 420-450 MHz is mandatory. There is no reason to prefer a second band different from 448-450, so its retention for this use is recommended.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Washington, D.C. 20233

Office of Radio Frequency Management
Room 2246, SSMC-2
1325 East West Highway
Silver Spring, MD 20910

May 22, 1998

MEMORANDUM FOR: Edwin Dinkle
Secretary, IRAC

FROM: Richard Barth
Department of Commerce Representative

SUBJECT: LMCC Petition: IRAC Doc 30617

On May 20, 1998 I sent you NOAA's comments regarding the need to protect the wind profiler allocation at 448-450 MHz should any action be taken in response to the subject petition. In addition, I have been asked to bring to your attention the importance of amateur radio operations in the 420-450 MHz band supporting mission-critical functions of the National Weather Service (NWS).

As you know, the MSS industry tried prior to WRC-97 to achieve allocations in the 144-148 MHz and 420-450 MHz bands. At that time, the NWS made its position known in a letter dated February 18, 1997 from NOAA's Asst. Administrator for Weather Services to the FCC. A copy of this letter is attached. The operations which formed the basis for that letter continue and have, in fact, expanded. There are now 150,000 rather than 120,000 spotters participating in the NWS watch/warning program on an on-call basis when required by emergency conditions, and 119 Weather Forecast Offices are involved each using the facilities of multiple amateur repeaters.

The amateur repeaters involved operate primarily in the 440-450 MHz band. Since this band also includes the Government wind profiler allocation, it is especially important that it be protected.

Attachment

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE
1325 East-West Highway
Silver Spring, Maryland 20910-3283

W/OM11:RJB

FEB 18 1997

Mr. William F. Caton
Secretary
Federal Communications Commission
Washington, D.C. 20554

Dear Mr. Caton:

A proposal has been presented to the Federal Communications Commission (FCC) by the Mobile Satellite Service (MSS) to modify the international table of frequency allocations to permit commercial MSS operations in the amateur radio bands 144-148 MHz and 420-450 MHz. The National Weather Service (NWS) strongly supports the Federal Emergency Management Agency's (FEMA) position that you reject this proposal (enclosed letter to the FCC dated August 1, 1996; Reference No. ISP-96-005, IWG-2A).

The NWS, in fulfilling its mission of protecting the public from life- and property-threatening natural hazards, works very closely with FEMA and the state and local emergency management infrastructure, its partners in the hazards community. An important element in this partnership is the work of amateur radio operators.

Amateur radio operators comprise, by far, the largest contingent of NWS-trained SKYWARN severe weather spotters. NWS field offices train and maintain contact with more than 120,000 spotters across the United States, most in partnership with the American Radio Relay League's Amateur Radio Emergency Service and thousands of local radio clubs. It is the unique combination of their ability to describe potentially or ongoing severe weather and their means to communicate instantly this information to the NWS, along with their dedication to service, that makes amateur radio operators crucial to the continued improvement in NWS warnings for severe weather and flash flooding.

NWS modernization of remote sensors, such as Doppler weather surveillance radars, has helped to identify potential severe storms, but SKYWARN spotters still provide "ground truth" information valuable in the issuance and verification of warnings. Through the use of amateur radio communications, NWS meteorologists can have severe weather spotters accurately prepositioned and quickly redeployed as necessary. Instantaneously relayed spotter reports enable NWS meteorologists to correlate radar signatures (indicators) with severe weather occurrences, to improve warning specificity and lead time, and to learn more about storm structure and evolution to improve future warnings.

Amateur radio operators also provide communication back-up support to NWS offices using equipment operating in the referenced frequency bands when other forms of telecommunications are inoperative, for whatever reason. This communication back-up support is critical to ensuring the continuity of NWS forecast and warning programs.

Quick and reliable amateur radio communications by SKYWARN spotters help to provide the critical information and lead time to assist the NWS in the protection of life and property. This core mission of the NWS can be seriously degraded if an allocation is made that contributes to higher noise and interference levels in the bands, resulting in the SKYWARN operators' inability to effectively transmit essential messages. We strongly urge the FCC to remove these amateur bands from consideration unless studies indicate that the allocation would not contribute to a higher noise floor, additional congestion, or interference in the band that would result in the SKYWARN operators being unable to transmit messages critical to the protection of life and property.

Sincerely,

Susan F. Zevin for

Elbert W. Friday, Jr.
Assistant Administrator
for Weather Services

Enclosure

cc:
FEMA - P. Reid

DEP
ART

22 May 1998

MEMORANDUM FOR CHAIRMAN, IRAC

FROM: MILDEP IRAC Members

SUBJECT: Initial Comments on LMCC Petition (RM-9267)

Reference: IRAC Document 30617/1, Draft Petition for Rule Making Submitted by the Land Mobile Communications Council, which (Ref., page 29) requests that specific Federal and shared spectrum be reallocated to Private Mobile Radio Services (PMRS).

The MILDEP IRAC members strongly oppose allocation of the following frequency bands for PMRS operations:

420 - 430 MHz/440 - 450 MHz:

These frequency bands are used by several fixed high powered ballistic missile defense warning radars, numerous high powered USN airborne early warning radars and a highly mobile US Army tactical communication system. The DoD and NASA use this spectrum for very high power critical safety-of-life command destruct, flight termination and drone control activities. These operations are performed at all DoD ranges in the US&P throughout the 420-450 MHz frequency band.

The DoD also uses this spectrum for unrestricted electronic warfare (EW) test and training operations. The variety of modulations, high radiated powers and extensive geographic use by EW systems would cause extensive interference to PMRS operations.

The very high transmit powers and extensive deployment of DoD systems in the 420 - 450 MHz band would likely cause interference to PMRS operations and preclude shared use with PMRS.

1390-1400 MHz:

We recognize that this spectrum was reallocated by the OBRA 93. However, this spectrum is adjacent band to many high powered air defense and air traffic control radars. The DoD Range Joint Project Office (RAJPO) Data Link System transmits flight test data in this spectrum from a variety

of airborne platforms at altitudes in excess of 25,000 feet. PMRS could not be easily shared without implementation and enforcement of stringent PMRS receiver standards. The LMCC should note the protection areas designated in the OBRA 93 and BBA 97 reports. A highly mobile US Army tactical communication system operates in this spectrum as well.

1427-1432 MHz:

We recognize that this spectrum was reallocated by the OBRA 93. However, there are continuing uses of this spectrum by the DoD Range Joint Project Office (RAJPO) Data Link at numerous locations throughout the US by airborne platforms at altitudes in excess of 25,000 feet. A highly mobile US Army tactical communication system operates in this spectrum as well.

960 - 1215 MHz:

The DoD and FAA have long range plans for the use of this spectrum for various safety-of-life ATC systems. The high powered DoD Joint Tactical and Information Distribution System (JTIDS is extensively deployed throughout the US. We expect that PMRS users of this spectrum would experience sever interference from these operations.

Recommendation:

We urge NTIA to advise the FCC that the potential for in-band and adjacent band interference from high powered DoD operations precludes realistic sharing and compels a strong rejection of the LMCC Petition.

/s/	/s/	/s/
LTC L. Feast	Mr B. Swearingen	Mr. N. Pollack
USArmy IRAC Member	USN IRAC Member	AF IRAC Member

FOR AGENDA

U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, DC 20591

MAY 27 1998

Mr. William T. Hatch
Chairman, IRAC
National Telecommunications &
Information Administration
1401 Constitution Avenue, NW
Washington, DC 20230

Reference: Comments on the Petition for Rule Making
Submitted by the Land Mobile Communications Council

Dear Mr. Hatch:

We have reviewed the Petition for Rule Making (IRAC Document 30617/1), submitted by the Land Mobile Communications Council, and strongly oppose the proposed reallocation of 155 MHz of spectrum in the frequency band 960-1215 MHz.

As you are aware, today's National Airspace System uses this spectrum for various critical safety services, such as, Distance Measuring Equipment (DME), secondary surveillance radar, and Traffic Alert and Collision Avoidance Systems. The Federal Aviation Aviation's future plans for this 960-1215 MHz Aeronautical Radionavigation spectrum are outlined in our response (July 1997) to the White House Commission on Aviation Safety and Security (Gore Commission.)

That document, which identifies the future spectrum requirements for the modernized air traffic control system, identifies a requirement for a subset of spectrum in the 960-1215 MHZ frequency band to retain DME as a ground backup to the Global Positioning System (GPS.) The remaining spectrum will be used to provide an additional GPS signal to enhance the GPS accuracy and reliability; develop satellite based communication and surveillance applications for free fight; broadcast Automatic Dependent Surveillance information; provide in-flight weather information and in-flight monitoring of critical aircraft systems; and provide for runway incursion detection.

The loss of any part of the 960-1215 MHz aeronautical radionavigation frequency band will jeopardize aviation safety and growth and threaten the U.S. position as a world

leader in aviation. Therefore, we oppose any reallocation of frequencies in the 960-1215 MHz frequency band.

If you require any additional information, please contact me at 267-9738.

Sincerely,

Gerald J. Markey
Program Director for
Spectrum Policy and
Management

U.S. Department of Justice

Federal Bureau of Investigation

Washington, D. C. 20535

May 18, 1998

Mr. Edwin E. Dinkle
Executive Secretary
Interdepartment Radio Advisory Committee (IRAC)
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

Dear Mr. Dinkle:

Reference IRAC Doc. 30617, Petition For Rule Making Submitted By the Land Mobile Communications Council. The Department of Justice is adamantly opposed to the transfer of any additional federal spectrum. Since 1993, the federal government has identified 255 MHz of spectrum for reallocation.

As indicated in the September 1996 Final Report of the Public Safety Wireless Advisory Committee (PSWAC), federal agencies do not require additional spectrum provided that no more spectrum is transferred to the FCC for commercial use. This finding was based upon the use of new spectrum-efficient technologies and the assumption that funding will be made available to implement the new technologies. However, this increase in spectrum will not be realized until the majority of federal agencies have implemented new narrowband radio systems.

The PSWAC Report indicated that 95 MHz of spectrum is required to meet state and local public safety requirements through the year 2010. An additional 2.5 MHz is required for federal, state, and local law enforcement/public safety interoperable communications. Only twenty-four MHz of spectrum have been identified to meet this requirement. No spectrum should be allocated for other uses until the remaining 73.5 MHz of spectrum have been provided for public safety operations.

Sincerely,

Richard N. Allen
Alternate IRAC Representative
Department of Justice

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20548-0001

M-3

MAY 19, 1998

Mr. Edwin E. Dinkle, Executive Secretary
Interdepartmental Radio Advisory Committee,
U.S. Department Of Commerce
Herbert C. Hoover Building, Room 1605
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

REF: IRAC DOC No. 30617/1 and FCC RM-9267

Dear Mr. Dinkle:

In response to your electronic correspondence of May 15, 1998 concerning the recent Petition for Rulemaking filed with the Federal Communications Commission (FCC) by the Land Mobile Communications Council (LMCC), The National Aeronautics and Space Administration (NASA) and The National Science Foundation (NSF) wish to provide the following comments for consideration.

Concerns of NASA and NSF lie with three of the frequency bands being proposed by the LMCC for use by Private Mobile Radio Services (PMRS). These are the 1390-1400 MHz band, the 1427-1432 MHz band and the 420-450 MHz band. Comments on each of these are provided in the paragraphs below.

1. 1390-1400 MHz and 1427-1432 MHz

NASA and NSF would like to draw the attention of the IRAC, FCC and the LMCC to the frequency bands adjacent to these proposed reallocations. The 1400-1427 MHz band is allocated both Nationally and Internationally on a Primary basis to the Space Science Services (EARTH EXPLORATION-SATELLITE (Passive), RADIO ASTRONOMY and SPACE RESEARCH (Passive)) for remote sensing of the Earth's surface via satellites in low Earth orbit (used to detect soil moisture, salinity, sea temperature and vegetation index) and to the Radio Astronomy Service for spectral measurements of Hydrogen. Both of these passive measurements require an extremely quiet electromagnetic environment and as such are very susceptible to adjacent band radio frequency interference.

In order to protect the Space Science remote sensor observations, a permissible interference level has been established in ITU-R Recommendation SA.1029-1 of -171 dBW/m²/27 MHz total energy at the front end of the receiver in the 1400-1427 MHz band. This level may not be exceeded more than 1% of the time in total for all possible sources. These interference criteria must not be violated by adjacent band operations from the PMRS.

Protection requirements for radio astronomy observations are contained in Recommendation ITU-R RA.769-1. These are: -255 dBW/m^{-2}/Hz for continuum observations (RA.769-1 Table 1) and -239 dBW/m^{-2}/Hz for spectral line (RA.769-1 Table 2) observations.

It should also be noted that both of the bands proposed for reallocation were designated within the Omnibus Budget Reconciliation Act of 1993 and are scheduled for auction by the Commission. These

bands are scheduled for initial FCC availability beginning in January 1999 with full availability scheduled for January 2009.

2. 420-450 MHz

The Federal Government (NASA) uses this spectrum for critical safety-of-property, balloon payload separation and telecommand destruct for flight termination activities. NASA and DoD currently have joint space launch operations. Some of those locations are at Dryden Flight Research Center, Ca., Edwards AFB, Ca., Vandenberg AFB, Ca., Wallops Flight Facility, Va. and Kennedy Space Center, Fl.. Launch vehicles normally require a 12,000 km zone of protection around the launch site lasting up to five hours prior to and during launch. Additional uses of this band include Air-to-Air Global Positioning Service (GPS) transmission and experimental airborne synthetic aperture radar.

NASA feels that with the recent growth in both commercial launch space ports and commercial launch vehicles it is vitally important that we have a viable telecommand and destruct capability for flight termination activities..

NSF supports or operates several upper atmospheric research radar facilities in this band. These include the Arecibo Observatory of the National Ionosphere and Astronomy Center (NAIC), operated by Cornell University under a Cooperative Agreement with the NSF and the Millstone Hill radar (jointly supported with the USAF and operated by Lincoln Labs, MIT). They are used to study ionospheric and atmospheric phenomena, meteor observations, etc. The output power of the radars ranges between 2 and 4 MW, and they operate a substantial fraction of time (approximately 1000-2000 hours/year) Some parameters of the NSF supported radars are shown in the table below.

Site	*Latitude*	*Longitude*	*Power (Peak)*	*Duty Cycle*	*Operating hours(hrs/yr.)*	*Pointing*
Arecibo, PR	N 18° 21'	W 66 ° 45'	4 MW	10 %	1000-2000	Within 20 ° of zenith
Millstone Hill, MA	N 42 ° 37'	W 71 ° 29.5'	4 MW	6 %	1000-2000	Fully Steerable

Finally, NASA would like to point out that the Space Frequency Coordination Group (SFCG), a consortium of the 20 major international civil space agencies, has identified a requirement for active spaceborne remote sensors in the 400 to 500 MHz frequency range. Use of this band for active remote sensing has been identified for the monitoring of the Earth's forests (biomass and soil moisture) and has been endorsed by the SFCG in Resolution 15-6R2 in which the band 430-440 MHz is recommended. The need for monitoring the Earth's forests was emphasized at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, 1992. Technical factors supporting the need for access to this frequency range for this application are contained in ITU-R Recommendation SA.577-5 *Preferred Frequencies and Necessary Bandwidths for Spaceborne Active Remote Sensors.* The WRC-99 agenda contains an item which addresses a possible allocation for the Earth Exploration Satellite Service (active) in the 420-470 MHz band.

If the LMCC is allowed to enter and use any of these bands it well require additional frequency coordination between the United States, Canada and Mexico. This coordination would be necessary to prevent harmful interference to foreign and domestic operations.

In light of the above considerations NASA and NSF oppose the reallocation of the above discussed frequency bands for PMRS use unless it can be clearly demonstrated that the critical operations cited

here can be fully protected. We request that the IRAC through NTIA forward these views to the Commission emphasizing both Agencies' strong concerns regarding the LMCC Petition.

Regards

/S/

David Struba
NASA Representative to the IRAC

/S/

Tomas E. Gergely
NSF Representative to the IRAC

CERTIFICATE OF SERVICE

I, Teresa Goode, do hereby certify that a copy of the foregoing Letter from the National Telecommunications and Information Administration was hand-delivered(*) or sent via first class United States mail, on this 5th day of June, 1998, to the following:

Larry A. Miller
President
Land Mobile Communications Council
1110 North Glebe Road, Suite 500
Arlington, VA 22201-5720

Richard M. Smith*
Chief, Office of Engineering and Technology
Federal Communications Commission
2000 M Street, N.W.
Washington, DC 20554